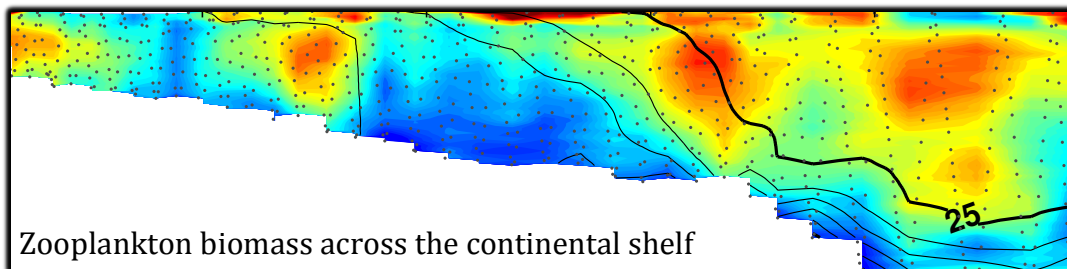


## PhD Position Available

### **Understanding the missing link in marine foodwebs: relating state-of-the-art automated measurements of zooplankton size and biomass to oceanography**

Supervisors: Prof. Iain Suthers (UNSW), Dr Jason Everett (UNSW), Dr Mark Baird (CSIRO Oceans and Atmosphere, Hobart), Assoc. Prof. Anthony Richardson (UQ and CSIRO Oceans and Atmosphere, Brisbane).



Zooplankton are the link in the oceans between the primary producers (phytoplankton) and fish, but there is little knowledge of how zooplankton biomass and size is driven by oceanography. Oceanographic features such as currents, eddies and fronts influence a range of biological processes in the ocean, including abundance, size and biomass of organisms, at a range of spatial and temporal scales. Traditionally zooplankton has been collected with nets and analysed in the lab under a microscope - a slow and tedious process. In this project, the PhD student will use high-resolution optical plankton counter (OPC) data. A huge dataset (10s of gigabytes) has been collected on 10 research voyages (2004-2015) to investigate the oceanographic drivers of the zooplankton size-spectra. Coincident measurements of physical (depth, temperature, salinity, oxygen) and biological (phytoplankton, larval fish) parameters will allow an in-depth analysis of the drivers of zooplankton size.

This PhD position is part of a larger Australian Research Council Discovery project that is analyzing a global database of zooplankton size spectra to investigate how zooplankton control the transfer of energy from phytoplankton to fish. The PhD student will have access to an unprecedented national and international database of zooplankton size spectra, and extensive collaborations with statisticians, biologists and ecosystem modellers.

#### **PhD Details**

The applicant will have a First Class Honours degree in science or mathematics and a keen interest biological oceanography. The student will require computational or numerical biology experience and programming (i.e. MATLAB, R, python).

The candidate would need to apply for an Australian Postgraduate Award at UNSW. The Ph.D. candidate will be based. Trips to the University of Queensland and CSIRO (Hobart and Brisbane) may be required. In addition, the candidate will stand a good chance of getting a CSIRO Scholarship.

In the first instance, please send your CV (max 2 pages) and university transcript, along with a cover letter (max 2 pages) outlining your relevant experience/skills and reasons for applying for this PhD project to: Dr Jason Everett ([Jason.Everett@unsw.edu.au](mailto:Jason.Everett@unsw.edu.au))